



The direct impact of climate change on regional labor productivity

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Abstract:

Global climate change will increase outdoor and indoor heat loads, and may impair health and productivity for millions of working people. This study applies physiological evidence about effects of heat, climate guidelines for safe work environments, climate modeling, and global distributions of working populations to estimate the impact of 2 climate scenarios on future labor productivity. In most regions, climate change will decrease labor productivity, under the simple assumption of no specific adaptation. By the 2080s, the greatest absolute losses of population-based labor work capacity (in the range 11% to 27%) are seen under the A2 scenario in Southeast Asia, andean and Central America, and the Caribbean. Increased occupational heat exposure due to climate change may significantly impact on labor productivity and costs unless preventive measures are implemented. Workers may need to work longer hours, or more workers may be required, to achieve the same output and there will be economic costs of lost production and/or occupational health interventions against heat exposures.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Special Report on Emissions Scenarios (SRES) Scenario: SRES A2, SRES B2

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

Temperature: Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

Climate Change and Human Health Literature Portal

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Injury, Other Health Impact

Other Health Impact: heat stress; heat stroke

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Mitigation

Model/Methodology:

type of model used or methodology development is a focus of resource

Cost/Economic

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Workers

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Medium-Term (10-50 years)

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content